

Title (en)

ROTATING DEVICE FOR PLASMA IMMERSION SUPPORTED TREATMENT OF SUBSTRATES

Title (de)

DREHVORRICHTUNG ZUR PLASMA-IMMERSIONS-GESTÜTZTEN BEHANDLUNG VON SUBSTRATEN

Title (fr)

DISPOSITIF DE ROTATION POUR LE TRAITEMENT DE SUBSTRATS ACTIVE PAR IMMERSION DANS UN PLASMA

Publication

EP 0966552 B1 20020703 (DE)

Application

EP 98962180 A 19981026

Priority

- DE 9803128 W 19981026
- DE 19750909 A 19971117

Abstract (en)

[origin: DE19750909C1] The unit (1) for rotating at least one substrate has at least one rotatable workpiece holder in the form of a rotatably mounted, electrically conductive bar (1, 11), and a rotation drive (6,7,7',7,17) for each such bar. It further has a high-voltage supply system (8,9,18) for each bar, and at least one insulation unit (2,12) for insulating the bars (1,11) from the rotating drive. An Independent claim is also included for: an application of the rotating unit for equipping of existing coating or pulse plasma nitriding installations; an application of the rotating unit for plasma immersion aided treatment, in particular, three-dimensionally shaped workpieces which are to be rotated during treatment. Preferred Features: The rotating drive engages the end of the bar (1,11) via an interposed insulation unit (2,12). Such insulations units take the form of ceramic insulators which rotate together with the respective bars. The bars in bearings (20) are insulated from the platform (30) by means of insulators (3,13). The bearings incorporate a sliding contact serving as a high-voltage supply element of the respective bar. Such a sliding contact includes a graphite pin in contact with the bar face. The apparatus has several parallel bars (1,11) carrying several workpieces. Two separate drives allow these bars to be rotated both independently and together with the platform (30). By means of appropriately shaped metal covers (5,15), the ceramic insulators are shielded against coating in the plasma.

IPC 1-7

C23C 14/50; **C23C 14/48**; **C23C 8/36**; **H01J 37/32**

IPC 8 full level

C23C 8/36 (2006.01); **C23C 14/48** (2006.01); **C23C 14/50** (2006.01); **C23C 16/458** (2006.01); **H01J 37/32** (2006.01)

CPC (source: EP US)

C23C 14/48 (2013.01 - EP US); **C23C 14/505** (2013.01 - EP US); **C23C 16/4584** (2013.01 - EP US)

Designated contracting state (EPC)

CH DE FR GB LI

DOCDB simple family (publication)

DE 19750909 C1 19990415; AU 1748099 A 19990607; AU 734117 B2 20010607; DE 59804666 D1 20020808; EP 0966552 A1 19991229; EP 0966552 B1 20020703; JP 2001508502 A 20010626; US 2001029896 A1 20011018; US 6490993 B2 20021210; WO 9925893 A1 19990527

DOCDB simple family (application)

DE 19750909 A 19971117; AU 1748099 A 19981026; DE 59804666 T 19981026; DE 9803128 W 19981026; EP 98962180 A 19981026; JP 52730699 A 19981026; US 34176399 A 19990909